

## VESTAKEEP® DC4450 R



### Tooth-colored polyether ether ketone for dental applications

VESTAKEEP® DC4450 R is a tooth-colored polyether ether ketone (PEEK) grade that is especially designed for removable and fixed dentures, crowns and bridges.

For VESTAKEEP® DC4450 R, biocompatibility has been tested according to ISO 10993-1 recommendations for permanent mucous membrane contact.

The compound composition is optimised for high biocompatibility and superior mechanical, thermal and chemical resistance.

VESTAKEEP® DC4450 R rods are available in different diameters and lengths:

### Dimensions of VESTAKEEP® DC4450 R

Diameter	Standard length*
6 to 20 mm	3000 mm
25 to 60 mm	2000 mm
70 to 100 mm	1000 mm

\* Custom lengths are also available

### Biocompatibility test reports available for DC4450 R

Standard	Description
ISO10993-03	Genotoxicity: Salmonella Typhimurium Reverse Mutation Test (Ames Test)
ISO 10993-05	Cytotoxicity: Quantitative Growth Inhibition Test
ISO 10993-10	Irritation: Intracutaneous Reactivity
ISO 10993-10	Sensitization: Local Lymph Node Assay
ISO 10993-11	Acute Systemic Toxicity
ISO 10993-11	Subacute / Subchronic Toxicity 14 days
ISO 10993-18	Extraction Tests
USP Class VI	Acute Systemic Toxicity Intracutaneous Reactivity Muscle Implantation

For further information, please contact us at [evonik-hp@evonik.com](mailto:evonik-hp@evonik.com).

## Properties of VESTAKEEP® DC4450 R

Properties		Test method	Unit	Value
Density	23°C	ISO 1183	g/cm <sup>3</sup>	1.52
Tensile test	23°C/ 50% r.h.	ISO 527-1 ISO 527-2		
Stress at yield			MPa	110
Strain at yield			%	4.2
Strain at break			%	> 10
Tensile modulus		ISO 527-1 ISO 527-2	MPa	5100
Flexural Test	23°C / 50% r.h.	ISO 178		
Flexural Modulus			MPa	4800
Flexural Strength			MPa	178
Izod notched impact strength	23°C / 50% r.h.	ISO 180	kJ/m <sup>2</sup>	5.1
Temperature of deflection under load				
Method A	1.8 MPa	ISO 75-1	°C	155
Method B	0.45 MPa	ISO 75-2	°C	210
Vicat softening temperature		ISO 306		
Method A	10N		°C	335
Method B	50N		°C	305
Linear thermal expansion longitudinal	23-55°C	ISO 11359	10 <sup>-4</sup> K <sup>-1</sup>	0.45
Melting range		ISO 11357		
DSC	2 <sup>nd</sup> heating		°C	approx. 340
Water absorption	saturation	ISO 62	%	0.4

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